Appl. No. 10/708,277
Amdt. dated May 16, 2006
Reply to Office action of February 08, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 (currently amended): A semiconductor process and yield analysis integrated real-time
management method, comprising:

inspecting a plurality of semiconductor products with a plurality of items during
semiconductor process, and recording a plurality of inspecting results of each
semiconductor product;

classifying the semiconductor products as a plurality of groups with a predetermined
rule, generating a raw data according to the inspecting results of each group, and
recording the raw data and the corresponding groups in a database;

indexing a plurality of semiconductor product groups from the database by a
predetermined product rule, indexing the corresponding raw data of each semiconductor
product group by a predetermined parameter, and calculating a corresponding analysis
result from the indexed semiconductor product groups and raw data with an analysis
module, wherein each of the semiconductor products are chips situated on different
positions of a wafer, indexing the semiconductor product groups is performed by
gathering statistics of the inspecting results according to their positions; and

displaying the analysis result according to the indexed semiconductor product groups
and the raw data and displaying the inspecting results of each chip according to its
position on the wafer.

2 (cancelled).

3 (currently amended): The method of claim 1 wherein the semiconductor products are
from different kinds or lots of wafers, indexing the semiconductor product groups is
performed by gathering statistics of the inspecting results according to the kinds, lots or

3

Appl. No. 10/708,277
Amdt. dated May 16, 2006
Reply to Office action of February 08, 2006

manufacturing dates of wafers, and displaying the inspecting results is performed according to the kind, lot, and manufacturing date ~~kinds, lots and manufacturing dates~~ of each wafer.

5   4 (currently amended): The method of claim 1 wherein [[the]] inspecting results and statistics of the semiconductor products are indexed and displayed according to a predetermined period in which the semiconductor products are produced.

5 (currently amended): The method of claim 1 wherein each semiconductor product is a
10   wafer processed by different processes, the inspecting results are the results of defect inspection of the wafer in the manufacturing process, indexing the results of defect inspection, and displaying the results of defect inspection ~~are~~ is performed according to ~~the~~ a kind and date of the processes.

15   6 (currently amended): The method of claim 1 wherein each semiconductor product is a wafer processed by different processes, indexing and gathering statistics are performed by examining time trends of the inspecting results of the processes, and ~~displaying the~~ trend charts are displayed according to kinds and ~~date~~ dates of the processes.

20   7 (original): The method of claim 1 wherein each semiconductor product is a wafer processed by different manufacturing processes, indexing and gathering statistics are performed by indexing and gathering inspecting results within a predetermined period, and the corresponding inspecting results are displayed according to the predetermined period.

25

8 (currently amended): The method of claim 1 further comprising recording the analysis results ~~in the~~ of different periods, comparing the similarity of the analysis results, and displaying the similar analysis results.

4

9 (currently amended): The method of claim 8 wherein the analysis results in the different periods are ~~record~~ recorded as a plurality of corresponding modules of analysis results according to [[a]] an experimental value[[;]], and after comparing [[a]] an analysis result

5   with another previous analysis result, the method further comprises updating the experimental value to build a new module of analysis results if the analysis ~~results~~ result is not similar to the previous analysis results, or recording the analysis result as a module of analysis results if the analysis result is similar to the previous analysis result.

10   10 (currently amended): The method of claim 1 wherein the analysis result is displayed with a visual interface of a computer.

11 (original): The method of claim 10 wherein each indexed semiconductor product group is listed with the visual interface, and users can find the corresponding raw data and

15   corresponding analysis results according to the indexed semiconductor product groups in the cross reference way.

12 (currently amended): The method of claim 1 wherein the raw data are listed with ~~the~~ a visual interface, and users can find the corresponding semiconductor product groups and

20   the corresponding analysis results according to the indexed raw data in a cross reference way.

13 (currently amended): The method of claim 1 further comprising ~~the~~ an in-line yield inspection of semiconductor ~~process~~ processes.

25

14 (original): The method of claim 1 further comprising a sample test of semiconductor wafer.

5

Appl. No. 10/708,277
Amdt. dated May 16, 2006
Reply to Office action of February 08, 2006

15 (original): The method of claim 1 further comprising a wafer test.

16 (original): The method of claim 1 further comprising a final test.

5   17 (currently amended): The method of claim 1 wherein transferring or querying data
provides the analysis results, and the ~~playing~~ displaying is performed by showing an
in-line quality control (in-line QC) of each semiconductor product, a root case analysis
(RCA) of each process, and a quality control and yield improvement of different kinds of
processes being displayed.

10

18 (original): The method of claim 1 wherein the analysis module is a T-test, a one-way
analysis of variance (ANOVA), a two-way analysis of variance, or box plots.

19 (currently amended): The method of claim 1 wherein displaying the analysis result
15   further ~~comprising~~ comprises:
        setting a ~~costumed~~ customized displaying mode by a user for recording ways to
display analysis results; and
        displaying the analysis results to the user according to the ~~costumed~~ customized
displaying mode.

20

20 (currently amended): The method of claim 19 wherein displaying the analysis result
further ~~comprising~~ comprises:
        providing a plurality of default displaying modes with each default displaying mode
recording a predetermined way of displaying analysis results, such that the user sets the
25   ~~costumed~~ customized data displaying mode by selecting a default displaying ~~modes~~ mode
to be the ~~costumed~~ customized displaying mode.

21 (cancelled).

6